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Amendment dated January 11, 2006
Reply to Office Action of October 18, 2005

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AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An apparatus for estimating a manufacturing cost for a product comprising:

a first input device for receiving input data concerning physical characteristics of the product to be manufactured at multiple stages of design;

a cost calculation processor adapted to calculate the manufacturing cost based on information received from said first input device for one or more process series, and ~~to calculate the manufacturing~~ initial cost factor data which is ~~initially~~ independently supplied ~~and is updated~~ by at least two external suppliers using separate input devices, the cost calculation processor being adapted to recalculate the manufacturing cost based on updated cost factor data supplied by one or both of the at least two external suppliers;

a memory for storing each of the calculated manufacturing costs; and

a display device for simultaneously displaying the calculated manufacturing costs at the multiple stages of design for the at least two external suppliers, so that a user can determine which of the at least two external suppliers is better at each of the multiple stages of design.

2. (Previously Presented) The apparatus according to claim 1, wherein said cost calculation processor is adapted to calculate manufacturing costs for individual process steps

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of the plurality of process series; and wherein said display device displays the calculated

manufacturing costs for the individual process steps.

3. (Original) The apparatus according to claim 2, wherein said physical

characteristics include at least one of a shape, a thickness, and a material composition of the

product to be manufactured.

4. (Previously Presented) The apparatus according to claim 3, further comprising:

a variable cost memory; and

a fixed cost memory.

5. (Original) The apparatus according to claim 4, wherein said variable cost memory

and said fixed cost memory are connected to said cost calculation processor via an in-house

net connection.

6. (Original) The apparatus according to claim 4, wherein said variable cost memory

and said fixed cost memory are connected to said cost calculation processor via an internet

connection.

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7. (Previously Presented) The apparatus according to claim 4, wherein said first input device is located in an in-house development department.

8. (Previously Presented) The apparatus according to claim 7, wherein said external suppliers receive data from in-house production facilities and outsourced component makers.

9. (Previously Presented) The apparatus according to claim 8, wherein said in-house production facilities are connected to said external suppliers via an in-house net connection, and wherein said outsourced component makers are connected to said external suppliers via an internet connection.

10-14. (Cancelled)

15. (Previously Presented) The apparatus according to claim 1, wherein said external suppliers receive data from in-house production facilities and outsourced component makers.

16. (Previously Presented) The apparatus according to claim 15, wherein said in-house production facilities are connected to said external suppliers via an in-house net connection, and wherein said outsourced component makers are connected to said external suppliers via an internet connection.

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17-20. (Cancelled)

21.   (Currently Amended) An apparatus for estimating a manufacturing cost for a product comprising:

a first input device and an associated first display device for receiving and viewing input data concerning physical characteristics of the product to be manufactured at multiple stages of design of the product;

a cost calculation processor for calculating the manufacturing cost based on information received from said first input device at each stage of design of the product, and initial cost factor data independently supplied from at least two external suppliers using separate input devices, the cost calculation processor being adapted to recalculate the manufacturing cost based on updated cost factor data supplied by one or both of the at least two external suppliers;

said first display device for displaying the calculated manufacturing costs from said cost calculation processor,

wherein, upon entering a plurality of alternative process series for manufacturing the product at each of the multiple design stages via said first input device, said cost calculation processor calculates a plurality of alternative manufacturing costs for the at least two external suppliers, with each of the alternative manufacturing costs being associated with a respective

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one of the plurality of alternative process series for manufacturing the product at each of the multiple design stages, the first display device simultaneously displaying the calculated manufacturing costs at the multiple stages of design for the at least two external suppliers, so that a user can determine which of the at least two external suppliers is better at each of the multiple stages of design,

wherein the ~~calculated~~ recalculated manufacturing costs displayed on said first display device change based on the updated cost factor data independently supplied from the at least two external ~~supplier~~ suppliers using the ~~second~~ separate input ~~device~~ devices, and alternative physical characteristics of the product to be manufactured inputted using the first input device.

22. (Previously Presented) The apparatus according to claim 1, wherein the cost calculation processor includes:

a manufacturing cost price calculator for calculating manufacturing cost price elements based on cost prices received from a manufacturing cost price data base and data presented by an display information processor and an input information processor;

a variable cost element calculator for calculating variable cost elements based on variable cost factors received from a variable cost database and data processed by the input information processor; and

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a cost calculation processor for adding manufacturing cost price elements calculated

by the manufacturing cost price element calculator and variable cost elements calculated by

the variable cost element calculator into a cost total.

23. (Previously Presented) The apparatus according to claim 1, the manufacturing

costs are compared based on differences between the process series including a series of

different processing processes, and also differences between the process series including a

series of single processing processes.